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265. a.

128.



AN ESSAY UPON THE
PHILOSOPHY OF EVIDENCE,
OR
AN ENQUIRY
INTO
THE PROCESS OF BELIEF.



BY
WATKIN WILLIAMS,
OF THE INNER TEMPLE, BARRISTER AT LAW.

SECOND EDITION.

LONDON:
JAMES RIDGWAY, 169, PICCADILLY.
1855.

265. a. 128.

INTRODUCTION TO THE SECOND EDITION.

DR. FORBES WINSLOW in a criticism* upon this essay dissents from the doctrine expressed in the introduction respecting Reid's Theory, "That children have an *instinctive* tendency to *confide* in the *veracity* of others, and that the mind is not naturally in equilibrium, between belief and disbelief." He, however, grants, that in all cases of belief there is an association of antecedents and consequents; but then he asks, "But whence the tendency to this *association*? What is the *foundation* of the principle of *association*? Surely the natural (instinctive) constitution of the human mind." This certainly neither contradicts, nor is it inconsistent with my doctrine; it does not follow that we have an instinctive tendency to *confide* in *veracity*, because belief is always referrible to association, and association is founded in the natural constitution of the mind; at most it only follows that we have an instinctive tendency to form *some* belief, but *not* to form a *belief in veracity* any more than a belief in the *falsehood* of the speaker. Dr. Winslow may have mistaken Reid's use of the word belief, and supposed he had used it in the full sense including affirmative as well as negative beliefs; Reid, however as appears from the context, used it in the limited sense of an affirmative belief, as contradistin-

* See Winslow's Psychological Journal, July, 1858.

guished from disbelief. And in this sense I am still disposed to think Dr. Reid's theory unfounded. How is it that a certain word comes to convey to our minds the idea of a particular given object? How do certain combinations of words (sentences) come to convey to our thoughts some particular given relations of things?

This is wholly the result of experience, the association of the particular sound with the given object is not an instinctive association, but is conventional and arbitrary, the binding together of the two when thus associated is undoubtedly the natural result of the organization of our mind, but then the particular belief resulting from this association is not the result of instinct, but of the particular experience of the individual. Having once experienced the association of a particular sound with the existence of a particular object, when we again hear the sound, perhaps, we expect the existence of the same object, now the expectation of this particular object follows the sound because we have experienced their association, and not from any original tendency that we have to expect this particular object from the presence of this sound; again, if our after experience finds these two invariably associated, whenever we hear the same sound we expect and believe in the existence of the same object; now the first and every successive belief here mentioned is a confidence in the veracity of the sound, as indicating the existence of the particular object; the first step has been proved not to be instinctive, and it is equally clear, that in the subsequent cases the confidence depends upon the uniformity of the association.

The confidence we place in the veracity of witnesses

relating what they have seen or heard is traceable to the same principle: by the influence of association and habit we come to believe in the reality of facts related to us by others, the reality of fact having become associated in our mind with the narration of fact by a witness: thus it is that we place more confidence in the statement of a man whom we have long known, and who has never deceived us, than we do in that of a stranger, or one who has deceived us.

Circumstantial evidence operates in a like manner in producing conviction; the more closely anything which we see or hear is associated in our minds with some other event or object, the more convinced are we of the existence of the latter.

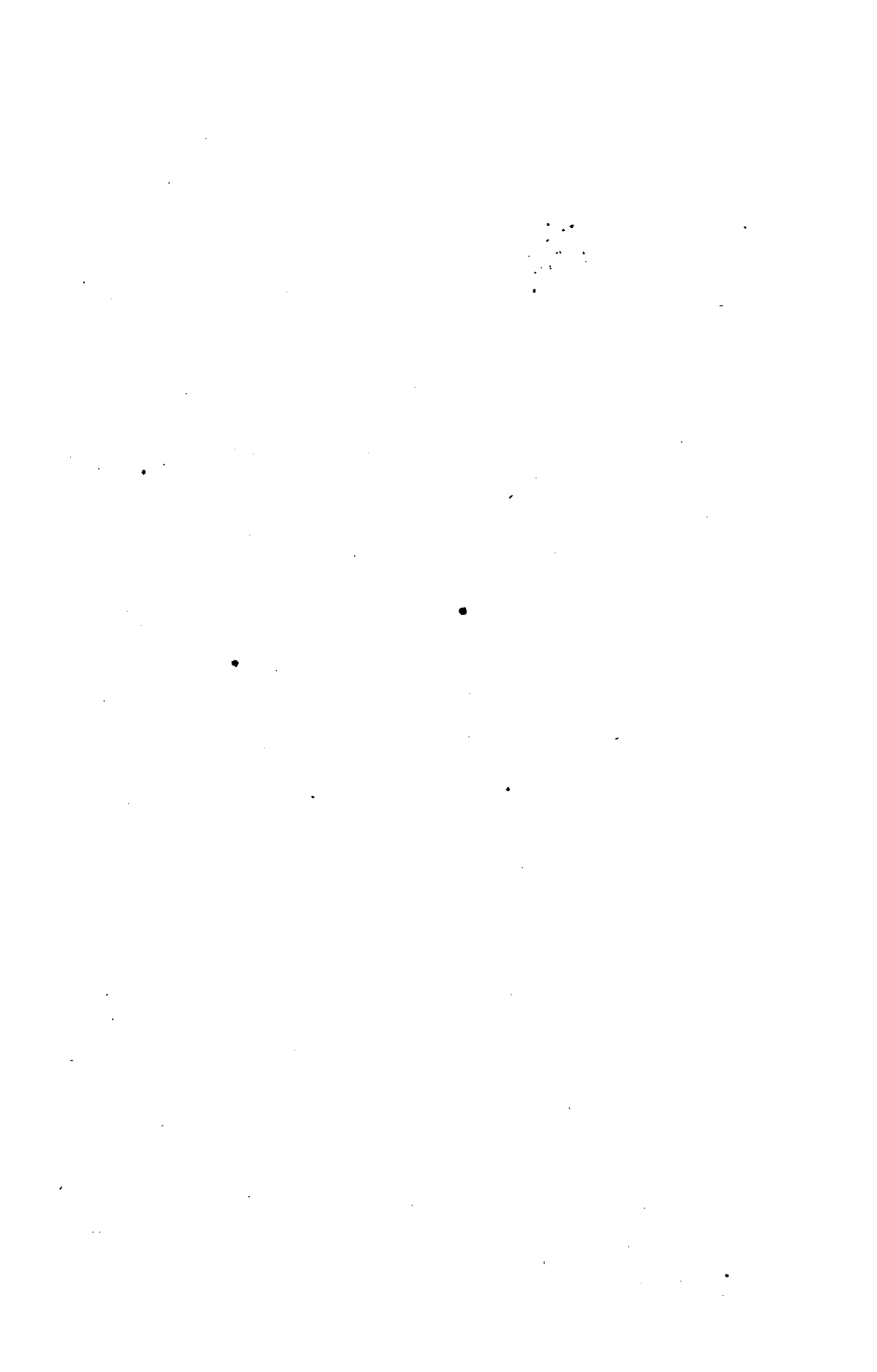
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Another doctrine impliedly held in this essay to be untenable, is that of Sir William Hamilton's, "that inconceivability is no test of impossibility." The term *inconceivable* has been the subject of ambiguity, being by some used to denote that an event is unthinkable, by others simply that the event is unbelievable, or that we cannot conjecture by what means or efficient cause it can be brought about. Many of the disputes concerning this celebrated argument turn upon this confusion. Sir W. Hamilton used it in the former sense. His argument appears in substance to be this. "The conclusions to which the test of inconceivability leads us in certain cases, sufficiently show its invalidity; for example, That space is limited is inconceivable, so also the idea of unlimited space is inconceivable, therefore



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space is neither limited nor unlimited." The Westminster Reviewer (Oct. 1853), taking a hasty glance at this argument, condemns it at once as suicidal; he asks, how it is that it shows inconceivability to be no test of impossibility? and answers, because it leads to the conclusion that two things which cannot both be untrue, are both impossible; but why, he asks, is it impossible for both to be untrue? only because it is inconceivable, and thus the validity of the test is assumed to prove its invalidity. The argument, however, is not so easily disposed of, and if properly developed, is untouched by the reviewer's criticism. It then stands thus:—The test of inconceivability leads to the conclusion that space is neither limited nor unlimited; now if we admit this conclusion to be correct, we admit that to be true which is inconceivable, and if we do not admit the conclusion to be correct, then inconceivability does not operate as a test of impossibility. The true answer appears to be that one of the premisses, namely, that unlimited space is inconceivable, is false; the term, *unlimited space*, expresses merely a negative quality of extension, *i. e.* extension of which we do not conceive the limit. If, however, it is said that neither the idea of space being limited or unlimited is conceivable; since language is conversant only with ideas, any proposition predicating either of these qualities of space must be simply meaningless, and the possibility or impossibility of such propositions would be wholly without sense, and quite incapable of being tested.

C. J. WATKIN WILLIAMS.

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INTRODUCTION.

THE following is a fragmentary Essay, containing discussions upon some of the operations of the Human Mind, and an attempt to analyse the *process* of belief concerning matters of fact. There will be found several extracts from the writings of Locke, Berkeley, and Hume.

The matter is condensed into as small a space as possible.

To the class of readers, however, whose favour I hope to gain, I need make little apology for an abruptness hardly to be avoided in a work of this kind.

If the arguments here set forth are correct, many theories are impliedly refuted, which, from the limited nature of this work, are not specified; as an example, we may take the notion expressed in Taylor's Treatise on the Law of Evidence, page 48, and supported by an extract from Dr. Reid,—“That children have an *instinctive* disposition to *confide* in the *veracity* of others, and that the mind is *not* naturally in equilibrio without an inclination to the side of *belief* more than to that of *disbelief*.” A fair consideration of our original acquaintance with surrounding objects, and of the first association in our minds, of words and names with the various relations of things and places to one another, will show that the principle of our childish belief is plainly reducible to the association of our ideas, and that it is no more instinctive than it

is to speak English, or to be a Catholic; this and other theories, if fully treated of, would fill two octavo volumes, a work far beyond my design.

The subjects we shall be engaged in are: The difference of mathematical, physical, and moral, impossibilities or certainties; whether the *process* by which the mind arrives at a *belief* concerning *matters of fact* can be *expressed in* or reduced to the *Syllogism*; a discussion upon Berkeley's Idealism; certainty and contingency are not intrinsic qualities of events, but merely the state of the human mind, respecting such events. We cannot properly say that any fact is contrary to the Law of Nature. The connexion between cause and effect is unknown. Origin of the Legends of the Saints. Application of the foregoing principles to the belief in a popular marvel, for example Clairvoyance; à priori arguments; physiology of sensation; and the existence of the sixth sense.

AN ESSAY
UPON THE
PHILOSOPHY OF EVIDENCE.

CAP. I.

§ 1. JUDGMENT is that operation of the mind by which the latter concludes or determines within itself the relations of the ideas and objects which it contemplates. A judgment is either affirmative or negative; affirmative when the mind concludes the agreement or compatibility of the two ideas, the relation of which it considers; negative when the contrary. A belief is synonymous with a judgment. A judgment or belief expressed in language is a proposition. An object is a sensible quality, or a compound of sensible qualities. An idea is the mental conception of a sensible quality, or of a compound of sensible qualities.

§ 2. Matters of fact, considered with reference to our belief in them, are divisible into two classes; first, such as are the immediate objects of sensation, as, I see a light, I hear a sound; and, secondly, such as are not, as my belief in the existence of heat within the furnace I see full of flaming matter, and my belief upon hearing a certain noise that there is some one walking in the room above me. It is not intended in

this essay to enter upon the abstruse psychological question touching our belief in the first of these classes, nor into the question whether inconceivability is a test of impossibility, the latter of which appears to me always to resolve itself into a simple logomachia. The proposition that I first propose to prove is that the mental state or operation, upon which is founded our belief in matters of fact not immediately present to the senses, is essentially different throughout to the mental state, operation, or process, expressed by the Syllogism. The term, matter of fact, will hereafter be confined, except where the context shows the contrary, to the second class.

§ 3. The mind originally derives all its elementary or simple ideas from the impressions upon the senses, and afterwards variously compounds these elements, and again divides and re-compounds them, constructing in this manner a great variety of artificial or purely subjective ideas, that is to say such as have no supposed conformity with objects. The mind, in these attempts to compound its ideas, in some instances is able to form a concept of the new compound idea which then becomes a single, though compound idea; in other instances the mind is wholly unable to do this: the former constitute the class of all conceivable or thinkable entities, or mathematical possibilities; the latter, mathematical impossibilities. The proposition expressing the inability of the mind to form such a concept is said to express a mathematical certainty; as, for example, a thing cannot be and not be at the same time; the part cannot be greater than the whole; nor can all birds be feathered and one particular bird not feathered;

nor can two lines running side by side ever meet without coming nearer to each other; the test of a mathematical certainty is that its contrary is wholly inconceivable and unthinkable.

Mathematical possibilities are divisible into physical possibilities and physical impossibilities. Conceptions that are in accordance with the established order of succession of physical events, are termed physical possibilities; such, however, as are contrary to that order are termed physical impossibilities, (in other words, physical certainties,) positive or negative, as the case may be; for example, that a heavy body lying on the earth should suddenly rise and fly upwards is physically impossible, but it is perfectly intelligible and thinkable that the law of gravitation might be reversed, and therefore this is not a mathematical impossibility, yet being contrary to the established order of succession of physical events, such an event we regard as a physical impossibility.

Physical possibilities again are divisible into moral possibilities and moral impossibilities; for example, that one should throw double sixes a thousand times consecutively with unloaded dice is a moral impossibility, although there is nothing in this that would be contrary to the established order of physical events, for there is no physical obstacle to the turning up of the same side incessantly.

Certainty is either certainty to be, or certainty not to be. Impossibility is either impossibility to be, or impossibility not to be. Now, impossibility to be is the same as certainty not to be, and impossibility not to be is the same as certainty to be. Every impossi-

bility therefore is a certainty either negative or affirmative, and conversely of every certainty. Moral possibilities and certainties being subdivisions of physical possibilities, differ from each other only in degree, the intermediate grades being probabilities of every degree. A full explanation of this subject, which embraces the doctrine of chance or the theory of probabilities, is too long to be introduced here ; it will be found fully discussed in Hume's works, and also in Laplace's Essay on Probabilities.

It must be borne in mind as a fact, now recognized by all philosophers without exception, that certainty (*i. e.* impossibility affirmative and negative), and uncertainty (*i. e.* probability affirmative and negative) are merely states of the mind, and not qualities inherent in the events contemplated. This is made clear by the fact, that the same event may be at the same time, to one person certain of not being, to another improbable of being, to a third probable of being, and to a fourth certain of being, according to their respective knowledge of the circumstances, and their habit of mind. (See § 14. c. 1.)

It follows from the foregoing observations that a belief is a judgment formed by the mind concerning certain ideas entertained by the latter, such judgment affirming or denying either the abstract compatibility of such ideas, or their supposed conformity with certain external objects, in the first case expressing a mathematical certainty, in the second a physical or moral certainty. It follows, therefore, that there is no such thing as a belief which cannot be expressed as a proposition with a subject and predicate, each representing

some distinct idea. It is, however, very common to hear the declaration of a belief which does not conform to the above rules; in such cases there is never an actual belief at all, it is a mere empty declaration; the very essence of belief precludes its existence under such circumstances. A complete belief or conviction concerning a matter of fact expresses either a physical or moral certainty. Mathematical certainties cannot strictly be termed truths, as they are merely hypothetical or artificial truths.

With regard to mathematical propositions, the mind can find no middle course between perfect assent and absolute rejection. If a mathematical proposition be conceivable, it must be true (as far as the term true is applicable.) *[On the other hand, with matters of fact it is very different. Most of the propositions we think, reason, discourse, and act upon, are such as we cannot have undoubted knowledge of their truth, yet some of them border so near upon certainty that we feel no doubt at all about them, but assent to them as firmly, and act according to that assent as resolutely, as if they were infallibly demonstrated. But there are degrees of such belief, from the very neighbourhood of certainty, quite down to improbability and unlikeliness, even to the confines of impossibility.]

Having laid these foundations, I am now in a position to advance with the proof of my proposition, which in order to keep plainly in view I here repeat, that the mental state or operation upon which is founded our belief in matters of fact not immediately present to the senses, is essentially different throughout to the

* Locke, Human Understanding, iii. c. xv. § 2.

mental state, operation, or process expressed by the Syllogism; and as supplementary to this, that the Syllogism merely represents the state of mind recognizing a mathematical or hypothetical certainty.

§ 4. If the term *snow* be used to represent a combination of the qualities white, flaky, cold, the proposition "snow is hot" becomes, in consequence of the hypothesis, a *mathematical* impossibility, because it is inconceivable that a cold, white, flaky substance should be also a hot, white, flaky substance: a hot, white, flaky substance is certainly quite conceivable; but that the same thing should be a hot substance, and at the same time a cold one, is quite inconceivable, and the term snow is confined by the definition to one of them. When, however, I look out of the window and see a white flaky substance falling from the clouds in December, although I can certainly *conceive* the idea of this substance being hot, I am firmly persuaded that it is otherwise. It is no argument to say, it must be cold, for it is snow, since if by snow you mean a cold, white, flaky substance, you cannot be certain that this white flaky substance is snow *before* you are certain that it is cold. Now, as before observed, although I can quite *conceive* it hot, yet I firmly believe it to be cold, and therefore I call it snow. It appears quite foreign to the real process of the mind to refer any particular object to a class for the purpose of predicating of the object by a logical sequence some quality which can be universally predicated of that class. It is but one way of begging the question; for you cannot refer an object to a class of which you predicate some quality universally, so long as you are in

doubt whether or not the object possesses this quality.

§ 5. Most logicians and psychologists, and, if I mistake not, Archbishop Whately* amongst the number, assert that the process by which the mind arrives at any conclusion concerning matters of fact, is expressible in the form of the syllogism. Such a syllogism, like every other, starts from hypothetical grounds, and represents a process quite distinct from that which really takes place in the mind when we form conclusions concerning matters of fact, and is in fact nothing more than a mathematical argument concerning the relations of our ideas.

§ 6. The mistake appears to have originated in confounding the connection which the mind perceives between any actual present object and similar objects of our past experience, with the connection which subsists between a particular proposition and an universal proposition. The connection in the two cases is manifestly different. After admitting the truth of an universal affirmative proposition, we assent to the truth of the particular affirmative proposition, not because we proceed from the belief in the one to believe the other, but because the idea of a particular affirmative being false when the universal is true is utterly inconceivable and unthinkable.

§ 7. Now, although the validity of the hypothetical argument that if all snow is cold, any particular snow *must* be cold, is unquestionable, yet when I look out of the window and see what I take to be snow, on the ground, and conclude and believe it to be a cold sub-

* See Elements of Logic, book iv. Induction.

stance, this is not because I cannot *conceive* the idea of such a substance being *warm*. Such an idea certainly contradicts my experience, and I am unable with the greatest effort to *believe* that the object which I see is warm; yet this inability is due to a state of mind very different from that which prevents me treating a particular affirmative proposition as false, at the same time that I assent to the truth of the universal: nor is it different in degree only—to me at least it appears of a totally different kind.*

§ 8. I am asked why I believe this snow to be cold, and I answer, because all snow is cold. Now, if in the term *all snow* I include this individual snow, I am palpably begging the question, for it amounts to saying, this snow is cold because it is cold, or, which is the same thing, I believe this snow to be cold, because I do believe so. If, on the other hand, the term *all snow* does *not* include in my mind *this snow*, then it is clear that the syllogism does not express the process by which I arrive at my conclusion.

§ 9. After carefully analysing my own thoughts, I think the process by which I form such a conclusion may be thus expressed at length. I believe this substance to be cold because, in every *other* instance of which I have had personal experience, of which I have heard, or of which I have read, I have found that a body having the same appearance and the same source, and coming under similar circumstances, *has been cold*: from this I am led to believe that this substance *will* also *be* found to be *cold*. There is, in fact, an inse-

* Vide *infra*, §. 12.


parable connection in my mind between the idea of a white, flaky substance falling from the clouds, and the idea that it also possesses the tangible quality, cold.

§ 10. An objection may be raised to this, namely, that this inseparable connection is precisely what is expressed by the universal proposition, "all white and flaky substances falling from the clouds, are cold;" from which the conclusion, "this white, flaky substance falling from the clouds, is cold," is a logical deduction. This every one must decide for himself; to me it appears that every judgment, which by the influence of past experience and association we form concerning the existence of any sensible quality not itself immediately present to the sense, bears to *its* premisses a relation essentially different to that logical sequence which is the relation between the conclusion and the premisses in a syllogism.

§ 11. Dr. Winslow, in reference to the foregoing sections, asks: "Do we believe in the unfelt cold of snow simply from the fact that we cannot see the flakes without *thinking* of the cold which we have always felt in conjunction with them. Is it not ultimately because we believe that the conjunction is not a casual but a uniform phenomenon?" That I do not hold these ideas to be inseparable in thought is clear from § 3, c. i; and the state of mind so expressed by me, I am unable to distinguish from Dr. Winslow's *belief* that the *phenomenon* is *uniform*; that is to say I shall always *believe* cold to be conjoined to the white flakes until the effect produced in my mind by association is destroyed by an inconsistent association. Such an inseparable connection as I

spoke of, does not imply an inseparability in thought, but simply in belief.

It is easy to unite ideas in thought in opposition to the association which experience has established between them, but except by the influence of a new association subverting our old ones, it is impossible to *believe* any fact contrary to the force of invariable association. The cases mentioned as disproving this doctrine, namely, of "philosophers who *believe* in opposition to their universal association that extension, is not really perceived by the eye any more than solidity or distance is perceived by that organ, but that like the latter it is one of the *acquired perceptions* of sight; and of the passengers on board ship sailing out of port, who contrary to their former association, believe that the change of angular position in the objects on land is not caused by the motion of such objects." These are not examples of belief contrary to the force of association; so long as the old associations continued uniform, it would have been impossible for them to divest themselves of their old belief, but it is quite clear that in these, and all such cases when there is a *real belief*, the old associations have been broken in upon by new ones at variance with them. It is upon this principle also that the confidence and trust that I place in one who relates a fact to me, (and which confidence is the effect of an association in my mind of the reality of facts with their narration), causes me to believe a fact conflicting with all my former associations, for here is a new association assuring me of a fact at variance with the facts to which my old association led me; the most powerful association of



the two overcoming the other ; if they are equal, then as is often the case we are in doubt. It is a fact that by far the largest proportion of our beliefs are founded on the authority of this last mentioned association or trust.

§ 12. A little reflection will convince any one that the process, which is always an induction more or less rapid, by which the mind proceeds to form a judgment concerning any matter of fact, differs essentially from that which is expressed by the syllogism ; for, if a conclusion concerning a matter of fact is arrived at by a process similar to that expressed by the syllogism, it follows that in order that such a conclusion shall have the same logical sequence from its premisses as the conclusion in the syllogism, the following course will be necessary. If we assume a major premiss, than the process by which the mind arrives at the conclusion is identical with that by which it arrives at the truth of the minor. If there is any value in the major premiss, the judgment expressed by the minor must be formed in the mind subsequently to the belief in the conclusion, consequently it is impossible that the minor can form *part* of the process which takes place in coming to that conclusion. On the other hand, if the minor is assumed, the mind, in constructing a major premiss, must in the very process have already decided every possible conclusion which by a subsequent process can be logically drawn from these premisses ; which is absurd ; therefore, the process which takes place in the mind when we form a judgment concerning a matter of fact, is distinct from that expressed by the syllogism.

§ 13. Dr. Winslow in his criticism seems to have misconceived the purport of my observations respecting the process of arriving at conclusions by induction and association, as contradistinguished from the process by which we arrive at conclusions in the syllogism. It has been my attempt to show, that the conclusions which we form concerning matters of fact are the result of a process, of which the syllogism represents no part whatever. The force of the logical demonstration represented by the syllogism depends upon the principle of identity; its conclusiveness amounts to a mathematical certainty, and depends upon the same principle as the conclusiveness of the proposition, "Whatever is, is," as pointed out by Leibnitz and Descartes, and it may thus be represented "a, b, c, d, are horned. This, is, c. This is horned." The nearest approach we can make to the syllogism, in expressing with accuracy the process by which we arrive at a belief of a matter of fact is this "a, b, c, d, being all the ruminants that we have any knowledge of, are horned; x, is, a ruminant; x, is, horned." The force of the conclusion in the *syllogism* depends upon this, that when the premisses are admitted, the contrary of the conclusion is not even thinkable; but in the case of a belief concerning a matter of fact there is no such sequence as this, it is clear that our belief in a matter of fact does not depend upon its contrary being inconceivable. Compare for example my belief that the sun will rise to-morrow morning, or that the man I see before me was once a boy, with my conclusion, that if *all* ruminants are horned *one particular* ruminant is horned: There is no analogy between these two operations of the

mind; my mind arrives at the belief of the matter of fact from the unvarying experience of the past, yet the contraries of such beliefs are perfectly conceivable, consistently with the perfect truth of the premisses from which they are drawn, for I can *conceive* that the sun may become extinguished to-night, or that the man was an exception to others, and was created his present size. The contrary of the conclusion in a syllogism cannot be reconciled with the truth of the premisses.

In drawing conclusions or forming beliefs as to matters of fact, which we do by an inductive process, more or less rapid, I contend, that neither after nor at any stage of this process does the mind build up a major premiss, and then draw its conclusion from this as a logical sequence; but that our belief in matters of fact arises from a wholly different state of the mind to the idea of logical sequence expressed by the syllogism.

The induction of the *Novum Organon* may be thus exemplified. The Palæontologist discovers the remains of a ruminant but cannot find the *oss frontis*; now his *quæstio* is, whether this is a horned animal or not; his mind in order to come to a conclusion follows out this course: "ox, sheep, goat, are ruminants: ox, sheep, goat, are horned: ox, sheep, goat, all the ruminants that I have any knowledge of, are horned: my conclusion therefore is that this is a horned animal." This conclusion is drawn by the force of analogy and association, and not by logical sequence.

If the third proposition of the induction, *i. e.* "ox, sheep, goat, all the ruminants that I have any knowledge of, are horned," be expressed as a major premiss

of a syllogism and the conclusion drawn from this as a logical sequence, thus ; "all ruminants, are horned ; this is a ruminant, this is horned." I can only add that this reasoning so far as it expresses the state of mind which gives rise to our belief has only the semblance of the syllogism, and our *belief* in the matter of fact expressed by the conclusion is not founded in the logical sequence of the conclusion upon the premisses, nor is it like the conviction yielded to a logical demonstration ; the expressing in the form of a syllogism, by means of a fiction, the premisses upon which our belief is actually founded, cannot give our *belief* the effect of a logical demonstration ; our *natural belief* in the *matter of fact* by no means partaking of the demonstrative character hypothetically attaching to the conclusion, but resulting from the state of mind expressed by the former process and retaining any portion of inconclusiveness that may belong to that. It should be remembered that the conclusion of every syllogism as such expresses only an artificial or hypothetical truth.

Whately accuses Locke of ignorance and confusion because he speaks of the syllogism as a *principle* of reasoning, and says that it is *the principle* of reasoning and that there is no other reasoning ; now Whately is either cavilling about words or else has himself fallen into confusion. It was evidently recognized by Locke that there are two distinct modes or operations of mind by virtue of which we accept material and mathematical truths respectively ; Locke applied the term reasoning to both, and attacked the syllogism which is expressive of the mathematical reasoning, as a process

and operation wholly worthless for practical purposes. Hume confines the term reasoning to the mathematical operation only ; I have followed him in this. Whately, however, probably used it in the same sense as Locke, but would not admit the distinction drawn by the latter between the two modes of reasoning, asserting that both were essentially the same and properly expressed by the syllogism.

It appears to me that Whately has not conceived any distinct idea of the true difference between a mathematical and physical impossibility, as appears from the following sentence which occurs in his *Elements of Logic*, if this is so it fully explains why he confuses what Locke alludes to as the *two modes of reasoning*. The sentence is this :—" A man may lift a great weight which it would be physically impossible for a child to raise, because it is contrary to the laws of nature that a muscle of *this* degree of strength should overcome a resistance which one of *that* degree is equal to." Now, it is not only contrary to the laws of nature that a muscle of *this* degree of strength should overcome a resistance which one of *that* degree is equal to, but it is utterly inconceivable, and amounts to a mathematical impossibility—it is equivalent to saying that it is contrary to the laws of nature that a muscle which is only able to overcome a resistance of fifty pounds, should overcome a resistance of five hundred. The idea that two muscles having unequal strength should possess equal powers of overcoming resistance, is as inconceivable as that there should exist two numbers having the same ratio to each other as the side of a square and its diameter. The first part of the sentence,

namely, that it is physically impossible for a child to raise the same weight as a man is correct, but by the addition of the hypothesis that the child is weaker than the man, the proposition is raised to a mathematical impossibility. Observe a child and a man engaged in removing weights, the idea that the child is able to raise as heavy a weight as the man, in other words, the idea that the child has muscles of the same degree of strength as the man, although quite intelligible is at once rejected as contrary to all experience, and, if I may use the term, to the laws of nature, and consequently a *physical* impossibility; but that one having a less degree of strength should be able to overcome as great a resistance as one having a greater degree of strength, is a proposition which is rejected as unmeaning and inconceivable.—In fact, as a *mathematical* impossibility.

§ 14. Having now disposed of the first proposition which was to be proved, it follows next in order to examine what really is the process of mind by which we arrive at our belief in matters of fact. Few will doubt that it is by experience alone we are able to form any judgment concerning matters of fact. For example, one to whom fire was unknown could never discover, by looking at it, that it would burn his fingers. There is nothing in the appearance of sugar by which he could ascertain its flavour, nor could any one without experience judge, by the appearance of an object, what impression its outline would make upon the tactile organs. It is by experience alone that we are able, from the *visible* qualities of an object, to judge what the *tangible* or other qualities are.

§ 15. Before proceeding further with this discussion

we must stop to consider the full meaning of the term *external objects*. It is clear that neither *ideas*, *perceptions*, nor *sensations*, exist independently of sensitive beings perceiving them. It becomes equally clear upon a moment's reflection that external objects are only various combinations of sensible qualities, such as colour, solidity, weight, temperature ; and lastly, that these qualities that are perceived by us are in reality nothing more than sensations which we feel, and which leave behind them their corresponding *ideas* upon the mind. We have no means of knowing what kind of impressions are received, from the same external causes by beings possessing senses differently constituted from our own. It is evident, however, that the particular characters of the sensations and ideas which we receive from these external causes, (that is to say, that the particular qualities which we perceive in external objects,) are due quite as much to the nature of the sensitive medium which perceives as to the external exciting cause. One might with as much correctness say that effervescence is due more to the acid than to the alkali, as assert that colour is due more to the external cause than to the eye. Suppose a lump of gold, a lump of silver, and some alkali to be conscious, how different would be the impressions they would receive upon coming in contact with some nitric acid. The quality which they now respectively perceive in the acid, in other words, the character of the effect which results from their contact, is due quite as much to their own nature as to that of the acid : the object which the gold perceives is widely different from that perceived by the silver, and both these are very dif-

ferent from the idea formed by the alkali. The impressions which the gold and silver respectively receive from the acid are as widely different from each other as the impressions which the silver itself would receive from water and the acid respectively. If we suppose the gold, the silver, and the alkali to communicate the impressions made upon them to some common centre of sensation, we have presented to us an arrangement analogous to our brain and the organs of the senses.

§ 16. What we denominate a sensible quality is the *effect* produced by the coming together of the external cause and our sensitive medium. It is also highly probable that this effect varies in different people ; that is to say, that different individuals do not receive precisely the same perceptions of external objects.

The term *external object*, strictly speaking, applies to the external cause so far only as it is known to us by the *effect* which is produced when it comes in contact with one or more of the organs of our senses ; and it is the *effect* only that we know anything of. It is therefore manifest that external objects as they exist to us, namely, as combinations of sensible qualities, do not exist at all, independently of their being perceived. Whoever is able to conceive an abstract idea of an external object, which is neither visible nor tangible, nor possessing any sensible quality can conceive an object which exists without any relation to its being perceived.

§ 17. I must caution the reader against the supposition that I am denying the existence of matter ; I do not deny the existence of an external something which exists independently of its being perceived. There is an inherent and irresistible conviction in my

mind of *some* existence external to myself, the nature of the qualities of which, (so far as I attach any intelligible meaning to the term quality,) I conceive to depend entirely upon the constitution of those conscious sensitive beings upon which it produces impressions. Indeed some modification of this conviction of the existence of matter seems essential to our consciousness of our own existence. The irresistible force of this axiom sufficiently refutes Berkeley's ultimate conclusion, which is arrived at by successive steps, none of which can be supported by an axiom of greater force than this which by one step leads us to a contrary conclusion. But so far as I attach any intelligible idea to the word *object*, I cannot conceive any object existing without any relation to its being perceived. Berkeley, in denying the existence of matter, has to resort to an expedient equally unsatisfactory to explain the origin of our ideas and sensations; for to ascribe our ideas and sensations to the ever-operative agency of an all-pervading spirit is equally without proof, and quite as unphilosophical as to attribute them to inert, unthinking matter.

§ 18. Having shown that external *objects*, so far as we can have any knowledge concerning them, consist only of impressions and ideas produced upon our mind, we have now to show that there is no idea or impression which is common to any two of the organs of the five senses; this will be readily admitted as regards most of the senses: the only two concerning which any one can have any doubt are vision and touch. It is, nevertheless, true that there is no idea which is common to these organs. The ideas which

constitute a visible sphere and cube are entirely different from those which constitute a tangible sphere and cube ; nor could we, without having experienced the impressions upon the organs of vision and of touch conjointly, have ever known that there was any relation or connection between the impressions produced on the one with those produced on the other.

*[That which I see is only variety of light and colours. That which I feel is hard or soft, hot or cold, rough or smooth. What similitude, what connection, have those ideas with these? Or how is it possible that any one should see reason to give one and the same name to combinations of ideas so very different, before he had experienced their co-existence? We do not find there is any necessary connection betwixt this or that tangible quality and any colour whatsoever. And we may sometimes perceive colours where there is nothing to be felt. All which makes it manifest that no man, at first receiving his sight, would know there was any agreement between this or that particular object of his sight, and any object of touch he had been already acquainted with ; there is no discoverable necessary connection between any given visible magnitude and any one particular tangible magnitude ; it is entirely the result of custom and experience, and depends on foreign and accidental circumstances that we can by the perception of visible extension inform ourselves what may be the extension of any tangible object connected with it.

§ 19. In the first act of vision, no idea entering by the eye would have a perceivable connection with the

* Berkeley.

ideas to which these names earth, man, tree, cube, were annexed in the understanding of a person blind from his birth, so as in any sort to introduce them into his mind, or make themselves be called by the same names, and reputed the same things with them, as afterwards they come to be; it may seem that the idea of *two* visible will sooner suggest to the mind the idea of *two* tangible than of *one*, so that the blind man, upon first reception of the visive faculty, might know which were the two and which the one.

§ 20. In order to get clear of this seeming difficulty, we need only observe that diversity of visible objects does not necessarily infer diversity of tangible objects corresponding to them. A picture painted with a great variety of colours affects the touch in one uniform matter; it is therefore evident that I do not by any necessary consecution, independent of experience, judge of the number of things tangible from the number of things visible. I should not, therefore, on first opening my eyes, conclude that because I see two I shall feel two. But for a fuller illustration of this matter, it ought to be considered that number (however some may reckon it amongst the primary qualities) is nothing fixed and settled really existing in things themselves. It is entirely the creature of the mind considering either an idea by itself or any combination of ideas to which it gives one name, and so makes it pass for a unit. According as the mind variously combines its ideas, the unit varies; and as the unit, so the number, which is only a collection of units, also varies. We call a window one, a chimney

one; and yet a house, in which there are many windows and many chimneys, hath an equal right to be called one, and many houses go to the making of one city. In these and the like instances it is evident the unit constantly relates to the particular draughts the mind makes of its ideas, to which it affixes names and wherein it includes more or less, as best suits its own ends and purposes. Whatever, therefore, the mind considers as one, that is a unit. Every combination of ideas is considered as one thing by the mind, and in token thereof is marked by one name. Now this naming and combining together of ideas is perfectly arbitrary, and done by the mind in such sort as experience shows it to be most convenient, without which our ideas had never been collected into such various distinct combinations as they now are. The extension, figures, and motions therefore perceived by sight are specifically distinct from the ideas of touch called by the same names, nor is there any such thing as one idea, or kind of idea, common to both senses; and a man born blind would not, at first reception of his sight, think the things he saw were of the same nature with the objects of touch, or had anything in common with them; but that they were a new set of ideas, perceived in a new manner, and entirely different from all he had ever perceived before, so that he would not call them by the same name, nor repute them to be of the same sort with anything he had hitherto known.]

§ 21. When we look at a spherical body, the impression upon the retina accompanying the visible per-

ception is nothing but a plane variously coloured and shaded, and it is by association and custom only that we are able to judge what tangible qualities accompany such and such variations of light and shade; nor should we, without experience, form the idea of a convex object of an uniform colour from the impression on the retina of a flat circle variously shadowed or coloured. The following is from Locke's *Human Understanding*, book ii. cap. ix. s. 8:—

“I here insert a problem of Mr. Molyneux, and it is this. Suppose a man born blind and now adult, and taught by his touch to distinguish between a cube and a sphere of the same metal and nighly of the same bigness, so as to tell, when he felt one and t’other, which is the cube and which the sphere. Suppose, then, the cube and sphere placed on a table, and the blind man made to see, *quære* whether by his sight, before he touched them, he could now distinguish and tell which is the globe, which the cube. To which the acute and judicious proposer answers not. For tho’ he has obtained the experience of how a globe, how a cube, affects his touch, yet he has not yet attained the experience that what affects his touch so or so must affect his sight so or so, or that a protuberant angle in the cube that pressed his hand unequally shall appear to his eye as it does in the cube.”

§ 22. Since Locke's time there has been a case exactly in point. It was the case of a boy at Oxford, who was affected with cataract in both his eyes from his birth, and was perfectly blind; having arrived at adult age, he was operated upon and received his sight; experiments were performed with a view of

deciding this problem, and the result was precisely that which had been foreseen by the ingenious Mr. Molyneux. Although perfectly familiar with a cube, a marble and a ruler by touch, he could form no conjecture when he looked at them, which were the objects which he knew as cube, marble, and ruler. Of course the impression which each produced upon the eye was different from that of the others; but he did not know which corresponded to any of the tangible objects he was acquainted with.

§ 23. It is, however, a long settled point that visible extension and figures are specifically distinct from tangible extension and figures. It is certain that a man blind from his birth would not at first sight denominate anything he saw by the names he had been used to appropriate to ideas of touch; cube, sphere, table, are words he has known applied to things perceivable by touch; these words, in their wonted application, always marked out to his mind bodies or solid things which were perceived by the resistance they gave; but there is no solidity, no resistance or protrusion, perceived by sight. In short, the ideas of sight are all new perceptions, to which there are no names annexed in his mind; he cannot therefore understand what is said to him concerning them, and to ask, of the two bodies he saw placed on the table, which was the sphere, which the cube, were to him a question downright unintelligible, nothing he sees being able to suggest to his thoughts the idea of body, distance, or in general of anything he had already known.

§ 24. * [I leave it to any one that shall calmly at-

* Berkeley.

tend to his own clear and distinct ideas to decide whether he has any idea intromitted immediately and properly by sight save only light and colours, or whether it be possible for him to frame in his mind a distinct abstract idea of visible extension or figure exclusive of all colour, or of colour without visible extension? For my own part I must confess I am not able to attain so great a nicety of abstraction; in a strict sense I *see* nothing but light and colours, with their several shades and variations. He who, besides these, can also perceive by sight, ideas far different and distinct from them, has that faculty in a degree more perfect and comprehensive than I can pretend to. It must be owned that, by the mediation of light and colours, other far different ideas are suggested to my mind; but so there are by hearing; for besides sounds, which are peculiar to that sense, there are suggested by their mediation, not only space, figure, and motion, but also all other ideas whatsoever that can be signified by words.

§ 25. When one has by experience learned the connection there is between the several ideas of sight and touch, he will be able, by the perception he has of the situation of visible things in respect of one another, to make a sudden and true estimation of the situation of outward tangible things corresponding to them; and thus it is he shall perceive by sight the situation of external objects which do not properly fall under that sense. We are exceedingly prone to imagine those things which are perceived only by the mediation of others to be themselves the immediate objects of perception, or at least to have in their own

nature a fitness to be suggested by them before ever they had been experienced to coexist with them, from which prejudice every one perhaps will not find it easy to emancipate himself, even by the clearest convictions of reason. This will not seem strange to us if we consider how hard it is for any one to hear the words of his native language pronounced in his ears without understanding them. Though he endeavour to disunite the meaning from the sound, it will nevertheless intrude into his thoughts, and he shall find it extremely difficult, if not impossible, to put himself exactly in the posture of a foreigner that has never learned the language, so as to be affected barely with the sounds themselves and not perceive the signification annexed to them; and there are some grounds to think that, if there was only one invariable and universal language in the world, and that men were born with the faculty of speaking it, it would be the opinion of many that the idea in other men's minds was properly perceived by the ear, or had at least a necessary and inseparable tie with the sounds that were affixed to them. To conclude, then, what we strictly *see* are not solids, nor yet planes variously coloured, they are only diversity of colours; and some of these suggest to the mind solids and others plane figures, just as they have been experienced to be connected with the one or the other, so that we see planes in the same way that we see solids, both being equally suggested by the immediate *objects* of *sight*, which accordingly are also denominated planes and solids; but though they are called by the same names with the things marked by them, they are nevertheless of a nature entirely different.]

§ 26. * [It now remains to be asked, how is it that, having had experience, we conclude from the appearance of one object the existence of another, *i. e.* from the presence of one or more sensible qualities, the existence of some other sensible quality, or the existence of some secret power? All philosophers acknowledge that the connection between the different sensible qualities of a given object is quite unknown; for example, between the visible and tangible qualities of snow. Past experience gives us direct and certain information of those precise objects only, and that precise period of time which fell under its cognizance; but why this experience should be extended to future times, and to other objects which may be only in appearance similar, is the main question on which I would insist.

§ 27. May I not clearly and distinctly conceive that a body falling from the clouds, and which in all other respects resembles snow, has yet the taste of salt or feeling of fire? These two following propositions are far from being the same. I have found such an object *has* always been attended with such an effect; and I foresee that other objects which are in appearance similar *will* be attended with similar effects. The one proposition is always inferred from the other; but what is the process by which this inference is made? If you insist that it is by a chain of reasoning, I desire you to produce that reasoning. What is the medium by which the propositions are connected?

§ 28. Without calling in question the advantage or indeed the necessity of depending upon past experience as a guide to the future, we will proceed in the

* Hume, Philosophical Works, vol. iv. p. 42, 1826.

next chapter to examine that principle of human nature which gives this great authority to experience, and compels us to draw conclusions as to future events from our experience of the past.]

CAP. II.

§ 1. [From causes which appear similar we expect similar effects. This is the sum of all our experimental conclusions. Now it seems evident that, if this conclusion were formed by reason, it would be as perfect at first and upon one instance as after ever so long a course of experience; but the case is otherwise. It is only after a long course of uniform experiments in any kind, that we attain a firm reliance and security with regard to a particular event. Now where is that process of reasoning which from 100 instances draws a conclusion so different from that which it infers from one instance that nowise differs from them? Should it be said, that from a number of uniform experiments we *infer* a connection between the sensible qualities and the secret powers, this I must confess seems the same difficulty couched in different terms.

§ 2. The question still occurs, on what process of argument is this inference founded? Where is the medium which joins propositions so wide of each other? It is confessed that the colour, consistence, and other sensible qualities of bread, appear not of themselves to have any connection with its secret powers of nourishment and support.

§ 3. What is the effect of experience? It shows us a number of uniform effects resulting from certain objects, and teaches us that those particular objects, at that particular time, were endowed with such powers and forces. When a new object endowed with similar sensible qualities is produced, we expect similar powers and forces, and look for a like effect. But surely this is a step or progress of the mind which wants to be explained. When a man says, "I have found in all past instances such sensible qualities conjoined with such secret powers," and when he says, "Similar sensible qualities will always be conjoined with similar secret powers," he is not guilty of tautology, nor are these propositions in any respect the same. You say that one proposition is an inference from the other, but you must confess that the inference is not intuitive, neither is it demonstrative: of what nature is it then? To say it is experimental is begging the question; for all inferences from experience suppose as their foundation that the future *will* resemble the past, and that similar powers *will* be conjoined with similar *sensible qualities*. If there be any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless and can give rise to no inference or conclusion.

§ 4. It is impossible, therefore, that any argument from experience can prove this resemblance of the past to the future, since all these arguments are founded on the *supposition* of this resemblance. Let the course of things be allowed hitherto ever so regular, that alone, without some new argument, proves not that for the future it will continue so. In vain do you pretend to

have learned the nature of bodies from your past experience. Their secret nature, and consequently all their effects and influence, may change without any change in their *sensible qualities*. This does happen sometimes with regard to some objects; and what logic, what process of argument, secures you against the supposition that this might happen to all objects? My practice, you say, refutes my doubts; but you mistake the purport of my question. As an agent, I am quite satisfied upon the point; but as a philosopher who has some share of curiosity, I want to learn the foundation of this inference.

§ 5. It is certain that the most ignorant and stupid peasants, nay, infants and even brute beasts, improve by experience and learn the qualities of natural objects by observing the effects which result from them. When a child has felt the sensation of pain from touching the flame of a candle, he will be careful not to put his hand near any candle, but will expect a similar tangible quality from an object which is similar in its visible qualities. If you assert that the understanding of the child is led into this conclusion by any process of argument or ratiocination, I require that argument to be produced, nor is there any pretence to refuse so equitable a demand. Nor does it appear to me that my belief that the sun will rise to-morrow morning is in essence different to this belief of the child, or the expectation of a dog, that has been beaten with a stick, when he again sees the stick under similar circumstances, that a similar beating will follow.

§ 6. Though we should conclude, for instance, as in the foregoing sections, that in all conclusions drawn

from experience there is a step taken by the mind which is not supported by any argument or process of the understanding, there is no danger that this process, on which all our knowledge depends, will ever be affected by such a discovery. If the mind is not induced by reason to make this step, it must be induced by some influence of equal weight and authority, and that principle will preserve its influence so long as human nature remains the same.

§ 7. Suppose a person, though endowed with the strongest faculties of reason and reflection, to be brought on a sudden into the world, he would indeed immediately observe a continual succession of objects and one event following another ; but he would not be able to discover anything further, he would not at first by any reasoning be able to reach the idea of cause and effect, since the particular powers by which all natural operations are performed never appear to the senses, nor is it reasonable, if I may use the term, to suppose merely because one event in one instance precedes another, that therefore the one is the cause, the other the effect ; the conjunction may be arbitrary and casual. There may be no reason to infer the existence of one from the appearance of the other, and, in a word, such a person without more experience could never form a conjecture concerning any matter of fact or be assured of anything beyond what was immediately present to his senses. Suppose again, that he had acquired more experience and has lived so long as to have observed similar objects or events to be constantly conjoined together, what is the consequence of his experience ? He immediately infers the existence of one object from

the appearance of the other, yet he has not by all his experience acquired any idea or knowledge of the secret powers by which the one object produces the other; nor is it by any process of reasoning he is induced to draw this inference, but still he involuntarily does draw it.]

§ 8. From perceiving certain sensible qualities to be always conjoined, we involuntarily infer that they are connected, and when one of these is present to our senses, there is a confidence in our mind that the other will be found conjoined with it. The principle, whatever it may be, by which we are determined to form such conclusions, we call *custom* or habit: whenever the repetition of any particular act or operation produces a propensity to renew the same act without being impelled by any reasoning or process of the understanding, we say that this propensity is the effect of *custom*. After the constant conjunction of two objects, heat and flame, weight and solidity, we are determined, by custom alone, to expect the one from the appearance of the other.

§ 9. [This hypothesis explains the difficulty why we draw from a thousand instances an inference which we are not able to draw from one instance in no respect different to them. Reason is incapable of such a variation: the conclusions which it draws from considering one circle are the same with those which it would draw from surveying all the circles in the universe. But no man only having *once* seen one body move after being impelled by another, could infer that any other body would move after a like impulse. All inferences from experience, therefore, are the effects of

custom, not of reasoning. Without the influence of custom we should be entirely ignorant of every matter of fact beyond what is immediately present to the memory or senses.

§ 10. Yet, although our conclusions from experience carry us beyond our memory and senses, and assure us of matters of fact which happened in the most distant places, and the most remote ages, some fact must always be present to the memory or senses from which we must first proceed in drawing these conclusions. If I ask why you believe in any matter of fact, you must tell me some reason, which will be some other fact connected with it; but you cannot proceed after this manner *ad infinitum*: you must at last terminate in some fact which is present to your memory or senses, or you must allow that your belief is entirely without foundation, and your idea simply imaginary.]

§ 11. The conclusion, then, to which we come is that all belief of matter of fact or real existence is derived merely from some object present to the memory or senses, and a customary conjunction between that and some other object. In other words, having found in many instances that any two kinds of objects (or sensations), *flame and heat, snow and cold, have always been conjoined together; if flame or snow be presented anew to the sight, the mind is carried by custom to expect heat or cold, and to believe that such a quality does exist, and will discover itself upon a nearer approach. This belief is irresistible, and is a species of natural instinct as unavoidable under the circum-

* Of course, the terms *flame* and *snow* thus used, are supposed to include only the visible quality of these objects.

stances as to feel the passion of love or hatred. The belief then in a necessary connection between any two objects will depend entirely upon the experience of the individual, and not upon the reality of such inseparable connection. Thus, to me the ideas of water and fluidity are not inseparably connected, as I have seen water become solid by cold; yet to one born and bred in the tropics, such a thing as solidified water often seems an impossibility, and discredit has frequently attached to Europeans who have related the fact.

“As it happened to a Dutch ambassador, who, entertaining the King of Siam with the particulars of Holland, which he was inquisitive after, amongst other things told him that the water in his country would sometimes in cold weather be so hard that men walked upon it, and that it would bear an elephant if he were there; to which the King replied, ‘Hitherto I have believed the strange things you have told me, because I looked upon you as a sober, fair man, but now I am sure you lie.’”

The remaining sections will contain some miscellaneous observations upon the foregoing subjects, and such as could not have been introduced before without breaking up the continuity of the arguments.

§ 12. As before observed, when we assert an event to be physically impossible, it amounts only to this that it is contrary to that order which according to past experience has prevailed in the succession of physical events; our knowledge of this order is derived from the observation and noting of facts positively ascertained, and this is the same whether it be from the observation and noting of others, or by our own observation and noting, so that we have sufficient evi-

dence of the truth of the former. However from the very nature and source of our knowledge of this order of succession we are precluded from ever being in a position to say for a certainty that any stated fact is contrary to the real law of nature (so to speak). For until we know whether the disputed fact is or is not a fact, we must remain in ignorance, so far, of what the law of nature is. In vain it is asserted that we have discovered the true nature of things. We know nothing whatever of the real connexion between any effect and its cause, we can only say so it is. This is by no means contradicted by the fact that it can be shown in the case of a given cause and effect, how the former leads by successive steps to the latter, this is in fact merely letting in a series of intermediate causes and effects, each of the facts enumerated being alternately an effect and a cause according as it is considered with reference to the fact preceding it, or the fact following it; this in reality only shows that the given cause and effect were remote from each other, and the difficulty is only shifted from this first cause and effect to the first cause and its proximate effect, and still remains unexplained.

§ 13. As to experience in the common acceptation of the term there is a vulgar maxim that the older man has always more experience than the younger, this is true only with some qualifications. Thus many from having had greater opportunities for and possessing superior powers of observation are more experienced than their seniors. Experience in this sense is proportionate to the number and variety of events that have passed before any one multiplied into his power of observation and sagacity, and not

simply to the length of time he has lived. It is true that the longer one has lived, the greater chance he has had of having experienced a greater number and variety of events, nor can it be doubted that every man is more experienced at 50 than he himself was at 25 ; but if in practice the test of age be applied as a measure of experience, the cases in which it will fail will be found as numerous as those in which it will be correct. It is quite clear that neither to different individuals nor at different periods to the same individual do the same number of events uniformly occur to furnish experience ; everybody must be familiar with the fact that they sometimes gain more experience in one week than, perhaps, in another whole twelvemonth. It is related by Alison that, during the French revolution, within the space of twenty years events were accumulated which would have filled the whole annals of a powerful State in any former age with instruction and interest. In forming an estimate of the probable relative experience of two men, their respective opportunities and powers of observation as well as their different ages, must all form elements in the calculation. Nor will any one doubt the correctness of the following analogy of Whately's.* Several different men, who have all had equal or even the very same opportunities of gaining experience, properly so called, will often be found to resemble so many different men looking at the same book ; one perhaps, though he distinctly sees the black marks on the white paper, has never learnt his letters ; another can read, but does not understand the language ; another, has an acquaintance with the language, imperfectly ;

* Political Economy, Lecture iii.



another is familiar with the language, but does not understand the subject of the book, from want of power and previous instruction; while another again perfectly understands the whole. The objects that strike the eye are to all these persons the same, the difference of the impressions produced is referable to the differences in their minds. In former times men knew by experience that the earth stands still, and the sun rises and sets. Common sense taught them that there could be no antipodes, since men could not walk with their heads downward like flies on the ceiling. Experience taught the King of Siam that water could not become solid; and the experience and common sense of Tacitus, one of the most intelligent and observant of historians, convinced him that, for a government to be so framed as to combine the elements of royalty, aristocracy, and democracy, must be next to impossible, and that if such a one could be framed it must inevitably be very speedily dissolved.

§ 14. While it is quite conceivable that events may be in their own nature absolutely impossible from physical causes, yet the relation of our knowledge to their impossibility can only be such as to render us approximatively certain, although in practice we feel as little doubt concerning them as we do of mathematical impossibilities. Still this has no influence upon the character of the events themselves, and the same event which one believes impossible, may appear not only possible, but even certain to another, as it was with the King of Siam and the Dutch ambassador. When also we speak of events being uncertain, we do not refer to any quality in the events themselves, but to the state of our knowledge concerning them. If

I observed a man preparing to walk on some ice or to cross an old and rotten wooden bridge, it might appear doubtful to me whether it would bear him or not, yet there is no intrinsic uncertainty in the event itself; the ice and bridge respectively will bear some exact weight before they will give way, and the man must be either above, below, or at this weight, and it is my want of knowledge of these data which alone makes the doubtfulness of the event, in other words, the uncertainty is in me, not in the event.*

§ 15. Our disbelief in an event physically impossible differs most materially in kind from our rejection of a proposition, which we treat as a mathematical impossibility. Suppose, for example, a man returning from his travels tells me that in a region never before explored he found water become solid at a temperature of 60 degrees Fahrenheit, that iron was fluid at a temperature of 40 degrees, that there were lakes of fluid iron with fish of adamant, that in this country stones would frequently collect together of their own accord and arrange themselves in the form of a pillar or arch, that he had observed in the cold weather his words freeze as he uttered them, and fall down in small pellets at his feet, and when the warm weather returned he heard his former sentences uttered aloud as the words thawed—I should look upon such reports as lies, as the King of Siam did upon the reports of the Dutch ambassador. If, however, a traveller told me he had met at New York a man so clever that he could construct a triangle having one of its sides equal to the other two, I should look upon him as an idiot and not a liar.†

* See § 3. c. 1.

† For the idea here illustrated, I am indebted to the learned

§ 16. I will now borrow an illustration from Whately, of the difference in the nature of the *assent* in the two cases; when we are informed concerning any matter of fact we are disposed to *thank* the man for his information, as being such as no wisdom or learning would have enabled us to ascertain. When, however, the proposition contains a mathematical truth, we usually exclaim, "very true! that is a valuable and just remark; that never struck me before;" implying at once our practical ignorance of it, and also our consciousness that we possess, in what we already know, the means to ascertain the truth of it; that we have a right, in short, to bear *our* testimony to its truth. To all practical purposes, indeed, a truth of this description may be as completely unknown to a man as the other; but as soon as it is set before him, and the argument by which it is connected with his previous notions is made clear to him, he recognises it as something conformable to and contained in his former belief.

Inability to accomplish a mathematical impossibility, implies (as Whately observes) no limitation in power, and is compatible with omnipotence, since it is not from a defect in power that one is precluded from performing a thing mathematically impossible, but from the problem being absurd, unmeaning, and in fact nothing.

§ 17. One who attempts to *demonstrate mathematically* that which is not susceptible of this kind of proof, can by no means increase the conviction of any

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one as to the fact, and he may diminish the belief of many who, perceiving the insufficiency of the demonstration, and thinking that the fact to be proved owes its certainty to the demonstration, permit this insufficiency to shake their belief of the fact itself.*

§ 18. †The presumption that where much is believed, something must be true, is by no means sustainable; accredited fiction is not always traceable to a basis of truth; the influence of the imagination and feeling often creates narratives without any such preliminary basis. Where any exciting sentiment pervades society all incidents tending to illustrate it are eagerly welcomed and easily credited. When real incidents are wanting, fictions supply their place, and their harmony with the prevalent feeling stands in the place of testimony.

Legends often derived their origin, not from misrepresented or exaggerated facts merely, but, from the translation into narrative by imaginative minds of the pious feeling pervading society. In an age ignorant of history and philosophy, and untainted with a critical disbelief, narratives purely fictitious will obtain ready and unsuspecting credence, provided only they be plausible and in harmony with the preconceptions of the auditors. The legends of the saints were produced in an age which had no records or philosophy or criticism, but full of religious faith, with a quick and

* This has unquestionably been the effect of Paley's *Natural Theology* and the series of *Bridgewater Treatises*. They have contributed quite as much to the propagation of what is called Scepticism, as any of the works of the Philosophical and Sceptical School.

† See Grote's *History of Greece*, vol. 1, chapters on *Mythology*.

susceptible imagination, seeing personal agents where we look only for objects and connecting laws, and accepting with the unconscious impressibility of children whatever was in harmony with their sentiments and pre-existing feelings. These legends, so infinitely multiplied and so pre-eminently popular and affecting in the middle ages, are not exaggerations of particular matters of fact, but emanations in detail of some current feeling which they served to satisfy, and by which they were in turn amply sustained and accredited. They were the natural growth of a religious faith, earnest and unexamining, interwoven with the feelings of an unreasoning people. The lives of the saints carry us back to the simple and ever-operative theology of the Homeric age, so completely is the scientific point of view respecting natural phenomena absorbed in the religious. The stories were accepted as realities, from their full conformity with the predispositions and sentiments of an uncritical audience, having been prepared not with reference to the conditions of historical proof, but for the purpose of calling forth sympathy, devotion, and reverence.

CAP. III.

§ 1. It now remains to apply the principles advanced in the foregoing chapters to the theory of, and the belief in, Clairvoyance.

§ 2. Objections of orthodox physiologists against the possibility of the facts related concerning Clairvoyance, have to be considered as well as the value of

theories advanced by the supporters of Clairvoyance, with a view to render their statements less repugnant to the notions of philosophical sceptics. The credibility of Clairvoyance can derive no real support from the plausibility of any theory, and provided the facts related concerning it are supported by positive testimony, their truth cannot be impugned by any objections of an *a priori* nature ; nevertheless, belief on the one hand and scepticism on the other, are constantly supported solely by the defensive theory and *a priori* objections respectively.

§ 3. It should be borne in mind that we are not testing truth when we are merely ascertaining how far a theory in support of it is plausible, and that showing an event to be possible is one thing and proving it to be a fact another. My belief or disbelief in the facts related concerning Clairvoyance is thoroughly independent of my opinion of the theories constructed to support their credibility ; so that I may reject the theory, and yet believe the facts ; or on the other hand, failing to invalidate the theory, I may be far from believing the facts. Every fact related and popularly believed concerning Clairvoyance may be true, while every theory raised to support or explain it, may be as utterly absurd ; so also is the plausibility of the theory compatible with the falsity of the facts.

§ 4. No speculative theory can ever really supply the place of positive testimony ; the theory is superfluous when a fact can be substantiated by positive testimony, and it is useless when it cannot, for a narrative, even divested of all incredible incidents, may be nothing more than a plausible fiction, against which certainly no intrinsic presumption can be raised ; but it requires

some positive testimony to elevate it to the superior dignity of truth. On the other hand, statements in themselves improbable deserve belief if they are supported by sufficient positive evidence.

§ 5. The following is an account given by Mr. Kelly, as an example of Clairvoyance:—"One day, having nothing to do, I suddenly determined to ride over and visit a friend who lived at some distance in the country. Upon my arrival my friend met me at the door, and, shaking me cordially by the hand, said, 'I am delighted to see you, I have been expecting to see you some time, and your dinner is nearly ready.' 'That is impossible,' said I, 'for I had no idea myself of coming a few minutes before I started.' 'Well, however, I knew you were coming,' he replied, 'and I have prepared for your reception.' By this time we had entered the dining-room. I treated it all as a joke, until at length he asserted he had discovered my proceedings by the aid of Clairvoyance, and, leading me into his study, he showed me his patient, a delicate ex-sanguine girl, apparently about twenty years of age. This girl, he told me, he could reduce to the clairvoyant state, and that when she was in this state he could, by the influence of his will, transfer her mind to any part of the world, when she could perceive and relate to him, with certain limitations, the events which were being transacted there, and that she could describe places in which she had never been, and people whom she had never seen, and without having ever heard of either. I could not credit this, for it is manifestly a physical impossibility, and contrary to all the laws of nature that any one should see through half a

dozen walls; I felt satisfied there was some juggling in it, and either he was himself imposed upon, or was trying to impose upon me."

§ 6. It is plainly weak to reject, in an unqualified manner, any stated fact upon the ground of its being physically impossible; it is almost as bad as opposing an universal negative to an universal affirmative. You raise a new issue which is quite superfluous to the argument, and a skilful antagonist, taking advantage of your mistake changes his ground and becomes the assailant, and positively defeats you, not by the strength of his original position, but in consequence of the rashness and absurdity of your attack. If any one asserts as a fact that swallows resort to the bottom of lakes in winter, it is asserting more than is necessary for its refutation to say, "It is physically impossible;" you give your adversary an advantage which his argument is not entitled to, the question of fact being changed into a question of physical possibility.

§ 7. No one should absolutely reject belief in Clairvoyance simply upon the ground of physical impossibility, although it is essential that one should receive a proportionate amount of positive testimony to convince him of a fact at variance with his knowledge of the past. For example, if I am told by several people in the street that another revolution has broken out in Milan or Madrid, or that the frost has set in so severely in the Pyrenees that the wolves descended into the plains and carried off the inhabitants, I should certainly be inclined to believe them at once. But before I can really believe in the existence of a sea serpent or a pack of animals having human heads

joined to the bodies of horses, although they are perfectly conceivable, I require the testimony of more trustworthy witnesses, as well as of a greater number of them. No positive testimony should ever be disregarded upon the grounds of the physical impossibility of the facts. It is folly to oppose to positive testimony the objection that the fact is contrary to the laws of nature, for the laws of nature are not ascertainable by any superior means to that which we have of ascertaining any matter of fact. The means are, in truth, precisely the same; so that if any fact contrary to the received laws of nature is fairly established by positive testimony, we can only conclude that the laws of nature were not what we thought them to be.*

§ 8. Before discussing the theory of clairvoyance, it will be necessary to dispose of a few preliminary points. Some philosophers think that the material brain itself not only receives those impressions which are the proximate cause of all our ideas and sensations, but that it is also, by its own act, conscious of the impressions produced upon it. Others again believe that the brain is merely the passive recipient of those impressions, and that consciousness is the act of a separate and superior agent which they call the mind, quite distinct from the brain. It seems most difficult to determine by analysing one's own thoughts ever so minutely, whether that upon which one's ideas are imprinted, and that by which one is conscious of the existence of these ideas, can be so divided or not.

§ 9. For the sake, however, of perspicuity, it is assumed that consciousness is an operation of the mind,

* Vide § 12. c. 1.

and that the brain merely receives the impressions communicated to it (by the organs of the senses) in the same manner as the organs of the senses received them before it. The fact that consciousness and perception, properly so called, do not always co-exist, certainly favours the supposition of a mind independent of the brain itself. The word perception is taken to mean that physical condition of the brain itself to which all our ideas are immediately due, and which must precede, if not in time, in the order of nature at least, our consciousness of any idea. Now consciousness, as already anticipated, is a subsequent act, by which we become aware of the existence of any image or impression imprinted on the brain. It cannot be doubted that impressions may be produced upon the brain without our being at all conscious of them at the time; for example, the striking of the clock every hour produces the same impression upon my ears, and the auditory nerve conveys the impression to my brain, but my thoughts being entirely engaged upon some other subject, I am not conscious of it. It may be objected that the brain, being pre-occupied by the operation of my thoughts, never receives the impression at all in such cases; but, independently of other proofs, such as the remembrance at a future time of impressions of which we were not conscious at the time they were produced, the following case will set the matter at rest.

§ 10. A man who lives above a mill that goes all night, is, when asleep, perfectly unconscious of the noise produced by the machinery; but no sooner does the mill stop than he becomes at once aware that the noise had continually produced a distinct impression

upon the brain, although at the time he was unconscious of it. We may therefore distinguish between the act of consciousness by the mind—the act of perception by the brain—and the impressions of external objects upon the organs of the senses.

§ 11. The impression of light upon the retina, or nerve of vision, the perception of that impression on the part of the brain, and the act of consciousness whereby the presence of that impression is recognised by the mind, are three distinct steps. It being always borne in mind that we have no knowledge whatever of any impressions produced by external objects upon any of the organs of the five senses, except by means of the impressions which are communicated from the organs of the senses to the brain; thus when you cut your finger the *pain* does not consist simply in the physical impression produced, but in the *consciousness* on the part of the mind of an impression conveyed to or produced on the brain, and which the mind refers to the peripheral extremity of the nerve communicating the impression. An arm when cut off ceases to feel pain before it has lost vitality, only because there is no consciousness of the impressions which may be produced upon it.

§ 12. This perception is said to consist in a particular arrangement or condition of the ultimate particles of which the fibres of the brain are composed; and our various ideas are said to be due proximately to the various arrangements of these particles: since therefore our idea of colour is nothing more than the consciousness on the part of the mind of a particular condition of the brain, it follows that whenever this

condition is present, we have the idea of colour ; this same condition may be produced by very different original causes, and distinct ideas appertaining to one of the organs of the senses arise without that particular organ being in that instance called into action. For example : in sleep, ideas quite as vivid as those which arise immediately through the medium of the organs of the senses arise from association, one idea successively introducing another, if during imperfect sleep an impression is produced on the brain through one of the organs of the senses, it introduces its correlative ideas appertaining to the other senses ; for example : if you throw cold water upon a person asleep, the impression conveyed to the brain by the nerves of sensation calls up a whole train of ideas attributed to the other organs of the senses, although no impression whatever is produced upon these. It is the same of any of the organs ; so a sound heard during partial sleep will call forth a variety of ideas strictly belonging to the other senses. Now it is evident, that let any given perception be produced upon the brain, by whatever means, the idea formed by the mind will be the same, and thus in Clairvoyance it is conceived that the brain, being in an abnormal condition and disenthralled from the influence of the organs of the five senses, becomes subject to the operation of a new sense, through which it receives from external objects impressions corresponding to those which would be produced through the organs of the five senses ; that this sense also differs materially in its operation, from the ordinary organs of the senses ; that its sphere of action is more extended, and that it can take cognizance of the visible qualities of more

distant objects to the exclusion of near and intervening opaque objects; that it is able to perceive distant sounds, while it disregards near and louder sounds, being able in fact to communicate to the brain all the sensible qualities of objects, whatever may be their distance, situation, or circumstances.

§ 13. From what has previously been said, it may appear superfluous to refute a theory raised in support of clairvoyance, since it has been shown that if the facts related concerning it be real and not fictitious, they are susceptible of proof, not that it is intended that all real facts are capable of being substantiated, for, of course, many (such as those, for example, which take place without witnesses) are not; but the facts related concerning clairvoyance do not come within the exception, and if they are true, they are capable of being proved; but if they are unattested, no plausibility can raise them to the dignity of truth. Yet there is another light in which this may be viewed.

There are many who are so controlled by powerful emotions, and so blinded by preconceived ideas that they sometimes reject, without the slightest reflection, every testimony of a fact, however convincing it might be to the mind of an unprejudiced person, and this simply because of a preconceived impossibility of the fact. A plausible theory often produces a marvellous conversion of people subject to the influence of such violent prejudices. No sooner is the idea of impossibility removed than the whole tide of their belief is changed; not content with a prudent doubt or a moderate assent, they rush at once into the opposite extreme, eagerly devouring the most questionable tes-

timony, greatly exaggerating its value, and ultimately ending by yielding a belief as blind, as bigoted, and as unphilosophical as their previous scepticism. Authority has such weight with the belief of the vulgar, that the conversion of one quasi-philosopher may be looked upon as the conversion of a large circle who take their doctrine by faith from his dictation.

§ 15. It may therefore be somewhat useful and certainly interesting to examine how far this theory is even plausible ; and, first suppose the existence of this sixth sense, coming into operation only when the brain is in a particular abnormal condition ; a sense, let us remember, which emanates by impalpable rays from the centre of sensation, and which is capable of penetrating to the furthest corners of the earth, and the sphere of whose action is decided by the will of some dominant spirit that guides it. The existence of such a sense is quite conceivable, as also its receiving impressions from the same external causes as our ordinary senses. But we must not overlook the essential conditions of this hypothesis ; until this sense has been used in conjunction with the other senses, and the impressions produced upon it have been associated with those produced upon the others, it is impossible that the mind can recognize in the *objects* perceived by this sense, the sources of any sensations producible upon the other senses. The impressions perceived by this new sense cannot convey to the mind the ideas of the same objects which it is accustomed to perceive through the medium of the other senses. "But," it may be said, "may not this sense be able to appreciate the real inherent qualities of external objects so situated as

not to come within the narrow limits of our ordinary feeble faculties?" This question has already been disposed of upon the ground that external objects so far as we exercise our thoughts concerning them are only combinations of sensible qualities and that these sensible qualities are impressions upon the organs of the senses, if indeed, by sensible qualities, we mean heat, cold, tastes, odours, colours, sounds.*

§ 16. It follows, therefore, as a necessary consequence, that if this sixth sense is different in its constitution from the ordinary senses, the impressions which it receives, and consequently all the *objects* which it perceives, must also be different; and if it is the same, it cannot perceive distant visible qualities to the exclusion of intervening opaque objects, nor can it hear distant and feeble sounds to the exclusion of nearer and louder sounds. To repeat: if this sense really *can* penetrate through a wall, and receive impressions from the other side the wall, these impressions must be different from what would be received by the other organs of the senses, supposing the wall did not intervene.

§ 17. It is likewise plain, from what has been said in the first chapter, that these new impressions, never having been associated with those received through the medium of the five senses, cannot possibly be expressed by the words appropriated to the latter, and consequently that the clairvoyant could not *communicate* what he perceives.

§ 18. It seems almost unnecessary to criticise the observation that *ideas similar to those produced through*

* Vide § 15-17, c. i.

the medium of the five senses are frequently produced without the operation of the latter. It is quite true that ideas arise in the brain, from various other sources than the immediate operations of the organs of the senses; as, for example, from association, from pressure both external and internal upon the brain itself, from the presence of deleterious matters in the cerebral blood-vessels, from inflammation and other causes. The only ideas of this sort which we have any knowledge of are certainly nothing more than a renewal of former ideas and sensations variously compounded and arranged, and do not necessarily correspond to prevent reality; they are, in fact, subjective or imaginary ideas only.

§ 19. The most formidable objection to the theory still remains, namely, that there is not a shadow of evidence to support it beyond the very facts which *it is intended to support*. It is now evident that if the facts cannot be substantiated without the aid of the theory, the latter must fall; on the other hand, if the facts are undeniable, the theory is valueless, except so far as it is treated as an interesting and ingenious speculation.

THE END.

